

REMARKS/ARGUMENTS

Applicants submit this Request for Reconsideration, in reply to the Office Action (“Office Action”) mailed August 7, 2006¹. Claims 1-7 remain pending in this application.

In the Office Action, the Examiner rejected claims 1-4 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 3,953,664 to Tsunashima et al. (“Tsunashima”) and rejected claims 5-7 under 35 U.S.C. § 103(a) as being unpatentable over Tsunashima in view of U.S. Patent No. 5,743,004 to Chobot et al. (“Chobot”).

Claim Rejections Under 35 U.S.C. § 102(b)

Applicants respectfully traverse the Examiner’s rejection of claims 1-4 under 35 U.S.C. § 102(b) as being anticipated by Tsunashima. In order to properly establish that Tsunashima anticipates Applicants’ claimed invention under 35 U.S.C. § 102, each and every element of each of the claims in issue must be found, either expressly described or under principles of inherency, in that single reference. Furthermore, “[t]he identical invention must be shown in as complete detail as is contained in the . . . claim.” See M.P.E.P. § 2131, quoting *Richardson v. Suzuki Motor Co.*, 868 F.2d 1126, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989).

Tsunashima does not anticipate claim 1, for example, because the reference fails to teach each and every element of the claim. In particular, Tsunashima at least fails to teach the claimed combination, including, for example, a “heat conducting apertured portion [that] conducts heat from the solder-dip surface, and directs the heat to

¹ The Office Action contains a number of statements reflecting characterizations of the related art and the claims. Regardless of whether any such statement is identified herein, Applicants decline to automatically subscribe to any statement or characterization in the Office Action.

peripheral areas of the through-holed portion on the component mount surface,” as recited in claim 1. The Examiner alleges that “Tsunashima et. al. teach[es] . . . a heat conducting apertured portion [3 and 4 that] conducts heat from the solder-dip surface [(bottom of 1)], and directs the heat to peripheral area[s] of through-holed portion on the component mount surface [(top of 1)] (function is inherent based upon the structure).” Office Action, pages 2 and 3 (emphasis added). Applicants respectfully disagree.

To establish inherency, Applicants respectfully note that the Examiner must show that “the missing descriptive matter is necessarily present” in the reference. See M.P.E.P. § 2112 (quoting In re Robertson, 49 U.S.P.Q.2d 1949 (Fed. Cir. 1999). (Emphasis added). In other words, inherency “may not be established by probabilities or possibilities,” and “[t]he mere fact that a certain thing may result from a given set of circumstances is not sufficient.” *Id.* Furthermore, “[i]n relying upon the theory of inherency, the Examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teaching of the applied prior art.” Ex parte Levy, 17 U.S.P.Q.2d 1461, 1464 (B.P.A.I. 1990) (emphasis in original).

Tsunashima discloses that “hole 4 is filled with an electrically insulating resin 5 [and] [t]he resin 5 also covers part of the conductive layer . . . and part of the conductors 2a and 2b as shown in Fig. 1.” Col. 3, lines 13-17. (Emphasis added). Further, Tsunashima teaches that “sometimes the conductive layer 3 such as a throughhole plating is broken by thermal shock due to soldering,” and thereby breaking the electrical connection between conductors 2a and 2b. Col. 3, lines 36-38. To prevent the

electrical connection between conductors 2a and 2b from breaking due to thermal shock “two holes 4 and 8 are formed through the board 1 for the same conductive path between the conductors 2a and 2b,” wherein “hole 4 is filled with resin and the other hole 8 is soldered.” Col. 3, lines 39-43. This arrangement allows “the electric connection between the conductors 2a and 2b [to be] securely maintained” if conductor 3 of hole 8 is broken during soldering. Col. 3, lines 46-48.

Accordingly, resin 5 acts to isolate the portions of conductors 2a and 2b at hole 4 from heat applied to the bottom of the board 1 during soldering, and thus, conductors 2a and 2b do not direct heat from such conductors of hole 4 to hole 8. Therefore, Tsunashima fails to teach the claimed combination of a “heat conducting apertured portion [that] conducts heat from the solder-dip surface, and directs the heat to peripheral areas of the through-holed portion on the component mount surface,” as recited in claim 1, and such a combination is certainly not inherent. (Emphasis added).

Accordingly, claim 1 is allowable over Tsunashima. Further, claims 2-4 are allowable at least due to their dependence from claim 1.

Claim Rejections Under 35 U.S.C. § 103(a)

Applicants respectfully traverse the Examiner’s rejection of claims 5-7 under 35 U.S.C. § 103(a) as being unpatentable over Tsunashima in view of Chobot. No *prima facie* case has been established.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference

teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

M.P.E.P. § 2142 (8th Ed., Rev. 5, August 2006), p. 2100-125.

With respect to the Examiner's rejection of claims 5-7, Tsunashima does not teach or suggest the claimed combination, including, for example, a "heat conducting apertured portion [that] conducts heat from the solder-dip surface, and directs the heat to peripheral areas of the through-holed portion on the component mount surface," recited in claim 1 and discussed in detail above. Further, Chobot is silent as to these features, nor does the Examiner rely on this reference to teach or suggest such features. Applicants therefore respectfully request the Examiner to reconsider and withdraw the rejection of independent claim 1 as being unpatentable over Tsunashima in view of Chobot under 35 U.S.C. § 103(a).

Moreover, claims 5-7 depend from claim 1, and thus, contain all the elements and limitations thereof. Accordingly, dependent claims 5-7 are allowable at least due to their corresponding dependence from independent claim 1.

Claim Scope

In discussing the claims in this Request for Reconsideration, it is to be understood that Applicants are in no way intending to limit the scope of the claims to any exemplary embodiments described in the specification or abstract and/or shown in

the drawings. Rather, Applicants believe that Applicants are entitled to have the claims interpreted broadly, to the maximum extent permitted by statute, regulation, and applicable case law.

Conclusion

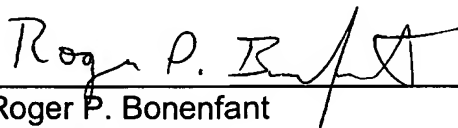
In view of the foregoing remarks, Applicants submit that this claimed invention is neither anticipated nor rendered obvious in view of the prior art references cited against this application. Applicants therefore request the entry of this Request for Reconsideration, the Examiner's reconsideration of the application, and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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By: 
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